



ENGINEERING PROFESSIONAL PERFORMANCE

Implementing PPIR



Presentation to EA NSW Risk Society
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PPIR Project

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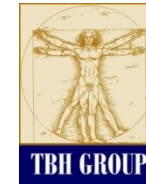
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Why is PPIR Needed? Contemporary Realities

- **Commercial relationships** - too complex and 'legalistic'
- **Community** - unrealistic expectations about engineering risk
- **Risk management** – has become risk segmentation and allocation
- **Insurance** - risks harder to understand and assess
- **Litigation** - time-consuming, costly, unpredictable

→ less opportunity and enthusiasm for engineering innovation.





Why is PPIR Needed?

- Engineering profession already has Competence and Ethics standards
- Performance is the missing “third leg of the stool”



Competency

Performance

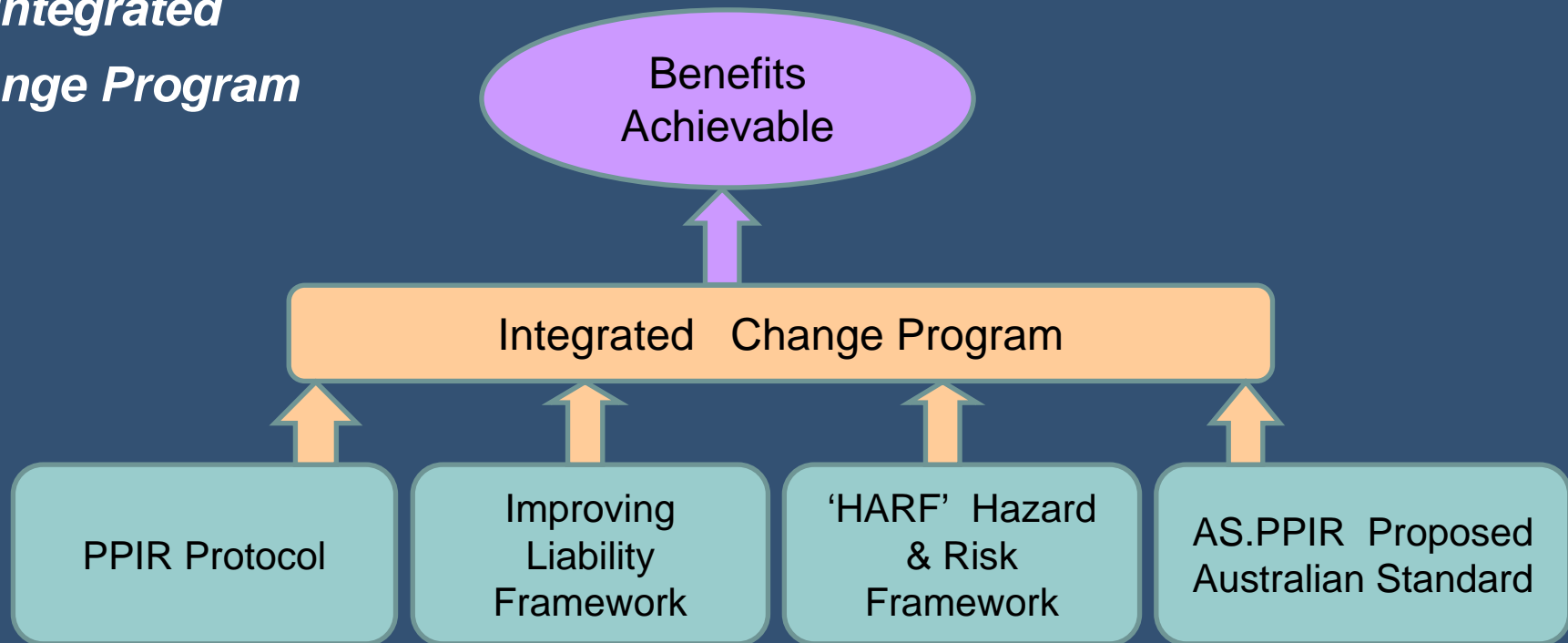
Performance : “How the professional engineer approaches and arranges a new task and how it is undertaken to ensure delivery of the final agreed outcome





What is the plan?

An Integrated Change Program





3. The Engineer

Accordingly, a Professional Engineer should:

- (a) assess the objectives, scope, extent and context of the Engineering Task, exploring particularly the relevant expectations and outcomes and the perceived best interests of the Responsible Person;
- (b) consider and discuss with the Responsible Person alternative methods of achieving the objectives, scope and extent of the Engineering Task;
- (c) define and document the Engineering Task agreed with the Responsible Person and the exclusions therefrom;
- (d) if the Engineering Task so defined cannot be agreed with the Responsible Person, consider whether it is appropriate to undertake it;
- (e) ensure that any documentation of the Engineering Task is consistent with the definition agreed with the Responsible Person; and
- (f) regularly re-examine whether the objectives, scope, extent and context of the Engineering Task have changed, and consider and respond as above to any such changes.

5. Statutory Requirements and Public Interest

and agree with the Responsible Person the appropriate response to:

- (a) laws, legislations, regulations and ordinances that may be relevant to the Engineering Task;
- (b) safety, environmental, public health and other public interest issues that may be relevant to the Engineering Task;
- (c) latent liability issues that may be relevant to the Engineering Task; and
- (d) ways in which these issues may impact upon or change the definition of the Engineering Task or the proposed approach to management of the Engineering Task.

7. Engineering Innovation

Accordingly, a Professional Engineer should:

- (a) assess the fundamental or beneficial to the Engineering Task, and evaluate the potential benefits;
- (b) assess the skills, knowledge and resources issues introduced by Engineering Innovation;
- (c) assess the appropriate action required in regard to intellectual property issues introduced by Engineering Innovation;
- (d) evaluate whether the risk profile and impact of Engineering Innovation requires change within the Hazard and Risk Framework for the Engineering Task; and
- (e) agree and review regularly with the Responsible Person throughout the Engineering Task the approach to be adopted in regard to the above.

9. Contractual Framework

Accordingly, a Professional Engineer should:

- (a) review the provisions of any contract or other such documentation to ensure they are based on the agreements reached with the Responsible Person in applying this PPIR Protocol and do not override or diminish the intent of such agreements;
- (b) negotiate with the Responsible person where the contract or other such documentation contains terms that are contrary to this PPIR Protocol;
- (c) request and seek to gain access to third party arrangements or contracts relevant to the Engineering Task and identify and seek to resolve any issues in conflict with this PPIR Protocol; and
- (d) consider whether it is appropriate to act if agreement cannot be reached as per the above.

4. Competencies

Engineering Task.

Accordingly, a Professional Engineer should:

- (a) assess and respond to the range and availability of professional knowledge, competencies and resources required to undertake the Engineering Task and assess any material uncertainties in these respects;
- (b) reach agreement with the Responsible Person as to how these uncertainties should be handled or failing such agreement consider whether it is appropriate to act;
- (c) not otherwise profess a capacity to undertake the Engineering Task if any part of the required professional knowledge, competencies and resources are lacking or not available at all the relevant times; and
- (d) regularly re-examine these issues throughout the Engineering Task and keep the relevant persons promptly informed.

6. Risk Assessment and Management

risks directly related to the Engineering Task, and the relationships between them, in the form of a Hazard and Risk Framework;

- (b) document and apply an appropriate plan to manage the identified hazards and risks in the Engineering Task;
- (c) document and apply an appropriate plan to manage any unidentified hazards and risks in the Engineering Task;
- (d) delegate risk management and accountability to the parties best able to manage that risk provided there is documented evidence of the parties' capacity and willingness to accept such delegation;
- (e) where there is not the capacity or willingness to manage or bear the risk consider whether it is appropriate to delegate or accept delegation of risk management;
- (f) keep relevant persons informed on all material risk management issues throughout the Engineering Task; and
- (g) regularly re-examine and audit (using independent audit if appropriate) risk management performance relevant to the Engineering Task and respond accordingly.

8. Engineering Task Management

management protocols and related procedures for identifying out and accomplishing the

Accordingly, a Professional Engineer should:

- (a) adopt and apply a project management system, quality assurance system and change management process appropriate to the Engineering Task;
- (b) arrange an effective procurement program governing the supply of materials and services by third parties;
- (c) arrange a systematic approach to timely disclosure to relevant persons and resolution of technical and commercial issues arising in the course of the Engineering Task;
- (d) identify and respond to potential conflicts of interest;
- (e) assess and maintain the transparency and integrity of all transactions involved in performing the Engineering Task in the context of prevailing community and professional standards;
- (f) log daily material events and decisions throughout the Engineering Task;
- (g) develop and maintain an effective system of timely communication between all those directly involved in performing the Engineering Task; and
- (h) upon completion of the Engineering Task assess and document the performance and outcomes achieved in delivering the Engineering Task.

Professional engineers in the ordinary course of professional engineering practice.

'Engineering Innovation' means the application of new scientific or technological knowledge, or the application of existing scientific or technological knowledge in new ways, in a commercial context.

'Hazard and Risk Framework' means an integrated hierarchical arrangement of all the material hazards and risks likely to be present in the Engineering Task and their inter-relationships, the risk issues and approaches that are consequently indicated, and the alternative ways in which the delegation of and accountability for effective risk management should be arranged.

'Professional Engineer' means a person holding an engineering qualification from a university degree course accredited by Engineers Australia and who has undergone a period of formation in the workplace.

'Relevant Party' means a party that has a direct commercial interest in the Engineering Task, be that contractual or otherwise.

'Other Stakeholder' means a person or entity other than a Relevant Party that has a current or latent material interest in the Engineering Task and may include the public or community at large.

'Responsible Person' means the individual to whom the Professional Engineer is directly or ultimately accountable in the Engineering Task, being either the leader of the in-house team undertaking the Engineering Task, or where applicable the person representing the client of the Engineering Task.

holders





6. Risk Assessment and Management

The Professional Engineer should develop and operate within a Hazard and Risk Framework appropriate to the Engineering Task.

Accordingly, a Professional Engineer should:

identify and assess the hazards and risks directly related to or associated with the Engineering Task, and the relationships between them, in the form of a **Hazard and Risk Framework**

delegate risk management and accountability to the parties best able to manage that risk provided there is documented evidence of the parties' **capacity and willingness to accept such delegation**

document and apply an appropriate plan to manage the **identified** hazards and risks in the Engineering Task

where there is not the capacity or willingness to manage or bear the risk consider whether it is appropriate to **delegate or accept delegation of risk management**

document and apply an appropriate plan to manage any **unidentified** hazards and risks in the Engineering Task;

keep relevant persons informed on all **material risk management issues** throughout the Engineering Task

regularly re-examine and audit (using independent audit if appropriate) **risk management performance** relevant to the Engineering Task and respond accordingly





Public Benefit


- Effective use of profession's knowledge/skills
- Better outcomes & VFM
- Balance in handling public interest issues
- Lower project/workplace/public safety risk profile at lower cost
- Less disputes, better ADR outcomes
- Better expert testimony, streamlining litigation





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Professional Performance, Innovation & Risk™

What does Professional Performance really mean?

What performance should engineering professionals expect of themselves and of each other? What performance should clients and other stakeholders expect of engineering professionals when they are undertaking an engineering task? These questions are answered in "Professional Performance, Innovation and Risk in Australian Engineering Practice"


Why should you care?

As a professional engineer, you are committed to do a professional job and to ensure that your team delivers quality outcomes. This report uncovers for the first time ever, anywhere, the words that describe and formally recognise what professional performance means in practice.

Follow the links below for more information

- [Opportunities to hear about the PPIR Protocol™ \(conferences\)](#)
- [Opportunities to learn about the PPIR Protocol™ \(formal training\)](#)

Get your copy of the Project Report: Professional Performance Innovation and Risk in Australian Engineering Practice – Download or Hardcopy mailed



[The PPIR Protocol™](#)

[Guidelines for using the PPIR Protocol](#)

[Appendices to the Report](#)

For more information, go to:

www.ppir.com.au

**A Project about
Engineering Professionalism
In the 21st Century**



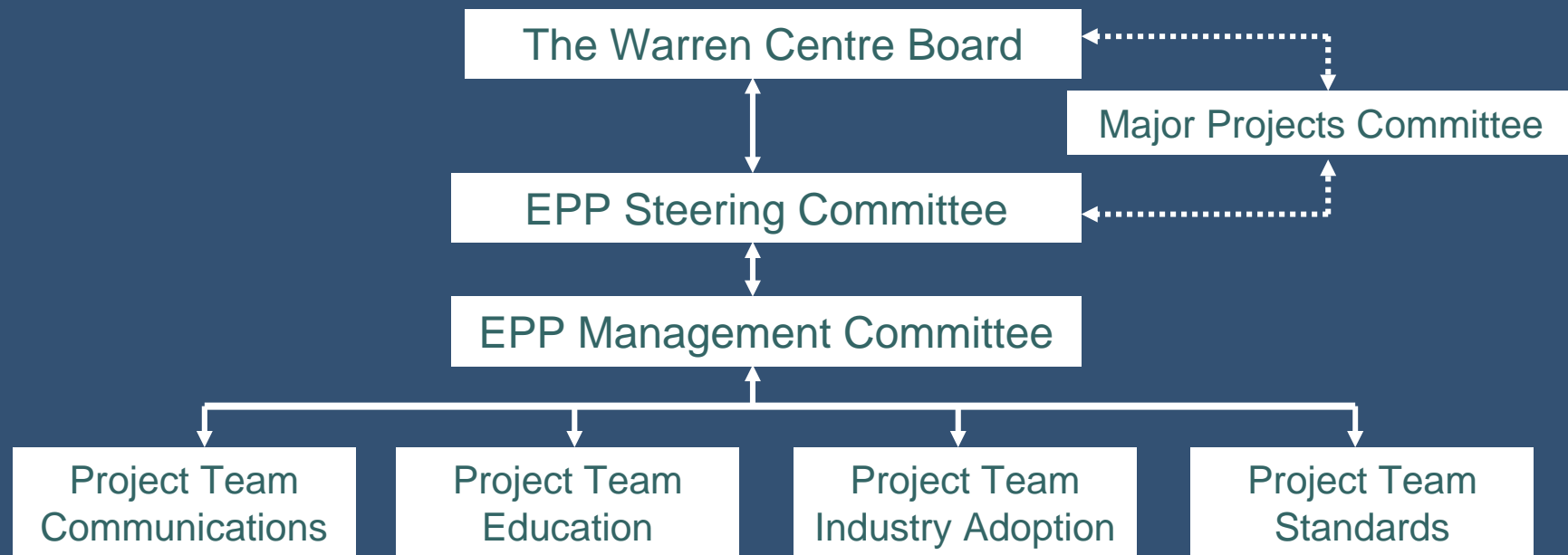
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The EPP Project



- These 4 Project Teams are under way
- Ensure sponsors are ready for roll out

